

REMARKS

The Examiner has objected to certain reference numbers in claim 1. In order to simplify matters, Applicants have deleted those references. Applicants have added the two words “deformed and” in the last line of claim 1.

The Examiner has rejected all of the claims in this case (namely claims 1 and 3 - 15) as being obvious over cited art. More particularly, main claim 1 as well as dependent claims 3-4, 6-10 and 14 are rejected as being unpatentable over the Dutt ‘435 Patent in view of the Yost ‘818 Patent.

Other claims, namely claims 5 and 12-13, are rejected over those two references in view of a third reference the Smalley ‘371 patent.

Dependent claims 11 and 15 are further rejected as obvious in view of the further patent reference of Martinelli ‘653 Patent.

There is one independent claim, namely amended claim 1. The following comments are primarily directed to the scope of that claim and the teachings of the applied art.

Dutt ‘435

Applicants believe that Dutt ‘435 is the primary reference. An understanding of how Applicants’ invention differs from Dutt will provide the basis for understanding patentability and non-obviousness over all of the references applied or cited.

On a first review of Dutt ‘435, with particular reference to FIG. 4, there appears to be some sort of mirror image similarity between Applicants’ design and that of Dutt. The attached Figs. are provided with added reference numbers and legends to facilitate reference in reviewing the following .

In terms of the following comments please note that Dutt's resilient flange 36 is on the container and Applicant's resilient flange 20 is on the closure.

Please also note that when assembled:

(a) In Dutt, the downwardly facing end 74 of the flange 36 rests on the upwardly facing ledge of the shoulder 70, and

(b) In Applicants' design, the upwardly facing end of the flange 20 sealingly engages the downwardly facing shoulder 14.

What might be the single most significant difference between the two designs derives from the fact that there is a sealing engagement in Applicants' design between the upwardly facing end of the flange 20 and the downwardly facing shoulder 14 while there is no such sealing engagement between the downwardly facing end 74 with the flange 36 and the upwardly facing shoulder in Dutt.

First consider the fact that in Dutt when the closure is pressed onto the container, the flange 74 end has to snap over the shoulder 70. This would not be able to occur if the flange end 74 had to snap into a sealing engagement with the shoulder 70. Indeed, Dutt at column 7, line 50, states "*... the bottom edge 74 of the flange rests on the top ledge 72 of shoulder 70*". Applicants submit that a resting relationship is not a sealing relationship. Applicants submit that this resting position has to be the case when the flange 36 is to fall into position when the closure is pressed onto the container. Dutt goes on to explain that this shoulder 70 and the ridge 34 (near the bead 80) hold the lid securely onto the can (line 51 – 53). But securely does not mean a sealing effect.

The discussion in Dutt at column 4, line 57 – col. 5, line 2 is directed to the design wherein as pressure within the container increases, the seal at the annular bead 80 increases. By

contrast, in Applicants' design, increased pressure in the container increases the flange 20 to shoulder 14 pressure and thus increases that seal. (see the discussion of FIG. 6 at page 11, line 17 of the PCT publication).

For Applicants to achieve a flange 20 to shoulder 14 sealing effect requires that the web 16 deform on assembly as set forth at page 9, line 3 of Applicants' PCT specification. This deformation structure has been added to Claim 1

There are seals in Dutt, one being a significant seal between the shoulder 32 and the bead 80. But that seal is not comparable to any of the three seals in Applicants' device.

There is discussion in Dutt (col. 7, lines 53-55) that resilience of the flange 36 causes it to press outwardly against the outer wall 60. This appears to force the interior surface of the wall 60 into close contact with the exterior surface of the flange 36. This arrangement assures the integrity of the seal between the lid and the can. Applicants believe that integrity is a secondary effect irrelevant to the fact that Dutt does not show or teach and indeed cannot have a sealing relationship between the end 74 of the flange 36 and the upwardly facing surface of the shoulder 70.

Applicants' flange 20, being on the closure, can be swung from a downwardly facing open position to an upwardly facing sealing position by virtue of engagement with the neck surface 12. Such a sealing engagement is effective in Applicants' device because the skirt 18 on the closure is in tension due to the deformation of the web 16.

Relevant significant portions of the amended claim 1 recite the distinguishing sealing engagement between flange and shoulder as follows (reference numbers added):

“...the inner surface of the skirt 18 carrying a continuous annular flange 20, which is in sealing engagement with the underside of the continuous downwardly directed annular shoulder 14 on the outer surface of the neck 8.”

“...the closure plate is connected to the annular skirt 12 by an annular web 16, the underside of which extends over the upper surface of the neck and is retained in deformed and sealing engagement with it by tension in the skirt 18.”

Yost '818 Patent

The Examiner refers to Yost showing an unlabeled hinge at the junction between the flange 18 and the sidewall 60. Applicants concede that resilient hinges (sometimes called living hinges) are known and are frequently used. It is not at all obvious how the hinge of Yost would be used in Dutt, and even if used, that it would provide the arrangement taught and claimed by Applicants. For example, an hinge at the junction between the flange 36 and the sidewall 26 in Dutt would detract from maintaining of the segment 26 in compression which is required to provide the seal at both ends of the segment 26.

In part because the flange 36 in Dutt is on the container and the flange 20 in Applicants' design is on the closure there is no way to combine Yost with Dutt that would make for a design that would be closer in structure to that of Applicants or that would provide the particular three-way sealing structure that Applicants teach and claim.

Smalley '371 and Martinelli '653

Smalley is recited for its showing of a release tab and Martinelli for showing an upper lateral flange 28 in a clear away closure.

These rejections apply to dependent claims 11, 12, 13 and 15. Applicants believe that these claims are allowable for at least the reasons discussed in connection with claim 1 and accordingly request allowance thereof.

General Comments

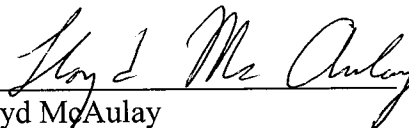
The art of closures go back generations. A wide variety of closures of all sorts have been proposed and many of them used. The ones cited by the Examiner show inventions in this art in 1986 (Dutt) and in 1994 (Yost). They teach value of closures to prevent compromised sealing, particularly as the pressure in the container builds up. For many decades, this sealing problem has been addressed and structures taught to solve the problem.

Furthermore, the technology involved in Applicants' invention, in particular, plastic molding has been available for many decades. Applicants suggest that there was nothing stopping other parties from coming up with Applicants' invention except for one significant factor. That factor is that it was not obvious to devise Applicants' design and that it would solve the sealing problems. The beneficial novelty provided by Applicants' design is the surest sign of non-obvious invention.

Accordingly, Applicants believe that the claims in this case are in condition for allowance and respectfully requests such.

Respectfully submitted,

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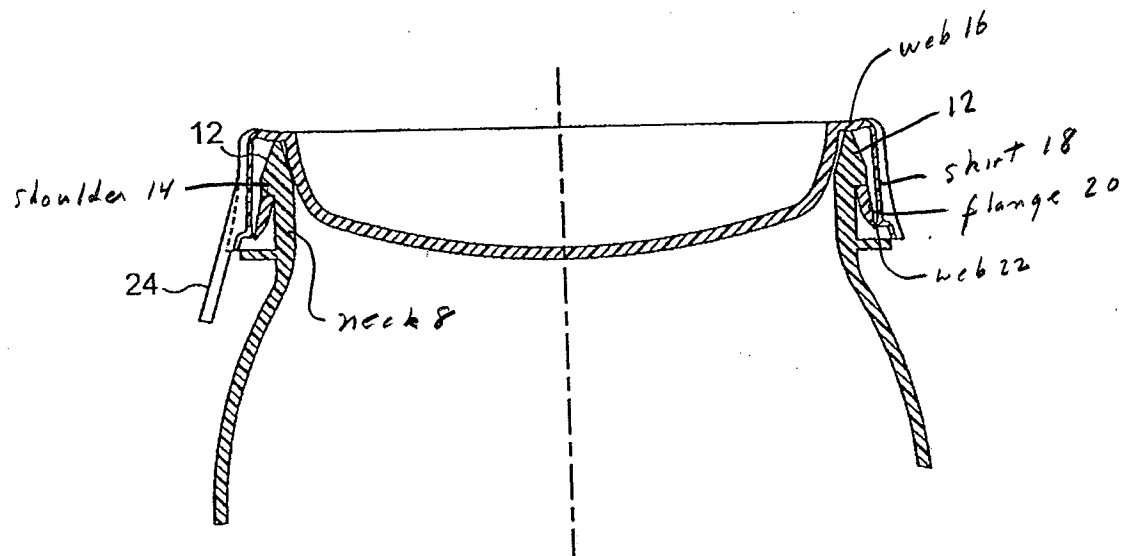


FIG. 3

APPLICANTS¹ FIG. 3

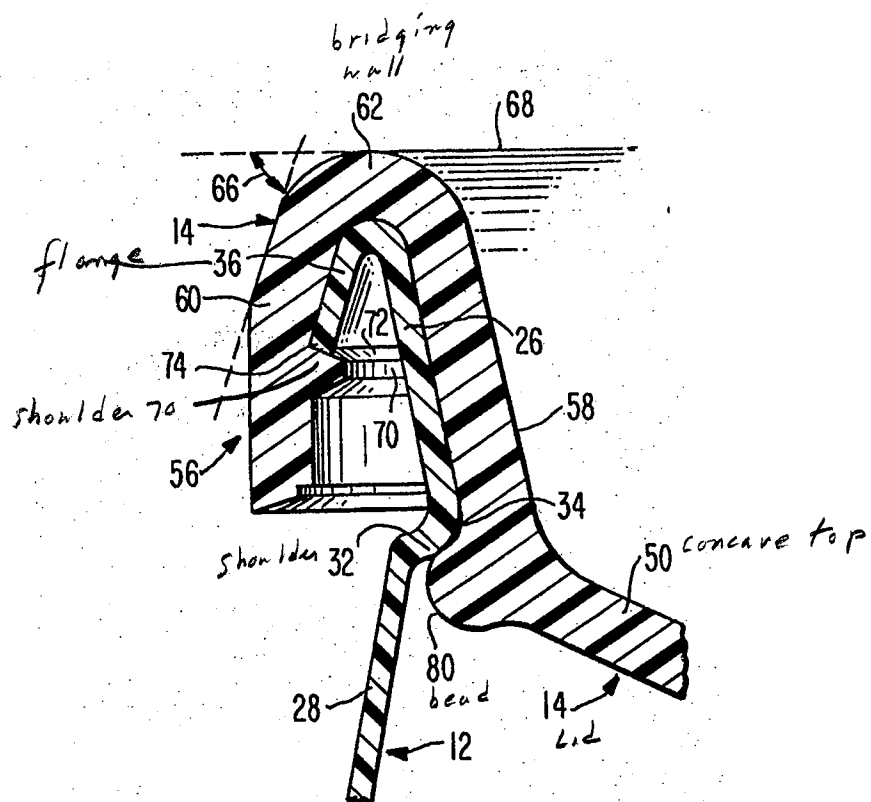


FIG. 4

DUTT '435